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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,397	09/28/2001	Kenneth G. Blemel		6480

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EXAMINER	
WEST, JEFFREY R	

ART UNIT	PAPER NUMBER
2857	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/966,397	BLEMEL, KENNETH G.	
	Examiner	Art Unit	
	Jeffrey R. West	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) *1-41 and 43* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 September 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *09/07/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed September 07, 2005, is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

Applicant has added new matter regarding the state of the prior art, as well as regarding U.S. Patents with publication dates subsequent to Applicant's earliest priority date, in paragraphs 0014, 0015, and the newly added paragraphs between paragraphs 0020 and 0021.

Applicant has added new matter in the paragraphs after paragraph 0046 beginning "The amount of luminosity and intensity..." and "Measurements of optical parameters include taking readings..." by adding more to the disclosure than common definitions.

Applicant has added new matter in paragraphs 0052 and 0053 specifying details regarding the flux response and media coating.

Applicant has added new matter in paragraphs 109b-109e. While the figures being described are the same as those originally filed, Applicant has added details not supported by the drawings.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Objections

2. Claim 42 is objected to because of the following informalities:

In claim 42, lines 1-2, to avoid problems of antecedent basis, "status of conduits, the determining comprising" should be ---status of a system of conduits, the assessing comprising---.

In claim 42, line 5, "and set" should be ---and a set---.

In claim 42, line 6, to avoid problems of antecedent basis, "sensors and strips" should be something similar to ---sensors comprising strands---.

In claim 42, line 7, to avoid problems of antecedent basis, "fit of the monitoring device" should be ---fit of a monitoring device---.

In claim 42, lines 9-10, to avoid problems of antecedent basis, "consisting of at least one strand" should be ---consisting of a multiplicity of strands---.

In claim 42, line 11, "medium has" should be ---medium have---.

In claim 42, line 16, to avoid problems of antecedent basis, "of sensitized medium" should be ---of strands of sensitized medium---.

In claim 42, line 18, to avoid problems of antecedent basis, "said monitoring apparatus" should be ---said monitoring device---

In claim 42, lines 18-19, to avoid problems of antecedent basis, "the said system of" should be –the set of discrete sensors---.

In claim 42, line 22, to avoid problems of antecedent basis, "digitize the signals from the said sensors" should be ---digitize signals from the set of discrete sensors---.

In claim 42, line 30, to avoid problems of antecedent basis, "damage to the sensor" should be ---damage to the set of discrete sensors---.

In claim 42, line 34, to avoid problems of antecedent basis, "communicating about sensed damage, deterioration, and as" should be ---communicating information about the damage, deterioration, as---.

In claim 42, line 36, to avoid problems of antecedent basis, "system;" should be ---system of conduits;---

In claim 42, line 37, to avoid problems of antecedent basis, "of said sensitized medium" should be ---of said strands of sensitized medium---.

In claim 42, line 38, to avoid problems of antecedent basis, "said sensitized medium" should be ---said strands of sensitized medium---.

In claim 42, line 40, "in accessible" should be ---in an accessible---.

In claim 42, lines 41-42, "multiplicity sensitized medium" should be ---multiplicity of strands of sensitized medium---.

In claim 42, line 43, to aid in clarity, "measurement for the purpose of" should be something similar to ---measurement of said strands of sensitized medium for the purpose of---.

In claim 42, line 46, to avoid problems of antecedent basis, "sensitized portion of the medium" should be ---sensitized medium---.

In claim 42, line 47, to avoid problems of antecedent basis, "sensitized portion of the medium" should be ---sensitized medium---.

In claim 42, line 49-50, "step of test measurement" should be ---step of making a test measurement---.

In claim 42, line 51, to avoid problems of antecedent basis, "then repeating said steps of measuring and determining" should be ---then repeating said steps of measuring the characteristic parameters and determining if said measured characteristic parameters are substantially equal to previously measured characteristic parameters---.

In claim 42, line 58, to avoid problems of antecedent basis, "record the parameters" should be ---record the characteristic parameters---.

In claim 42, line 60, to avoid problems of antecedent basis, "if the choice is to locate then measure" should be ---if the choice is to locate the change, then measure---.

In claim 42, line 62, to avoid problems of antecedent basis, "record the measured value" should be ---record a measured value---.

In claim 42, line 63, to avoid problems of antecedent basis, "estimate the degree of damage" should be ---estimate a degree of damage---.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 42 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 42 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement because it contains several limitations that are not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention as claimed. Specifically, the instant invention does not provide sufficient support for the limitations of "selecting parameters to be sensed and monitored" (line 4), "storing in a digital memory a data couplet containing information concerning said parameters, and the point in time" (lines 20-21), "forming tuplets that represent the time of the sample, identity of the sensor, and said parameter values" (lines 24-25), "providing an algorithm for estimating remaining useful life of the monitored conduits and components" (emphasis added) (lines 32-33), and "choosing whether to repeat said step of test measurement of said sensitized medium; and if the choice is to repeat, then repeating said steps of measuring and determining" (lines 49-51).

The Examiner notes that each of these limitations were present in the claims as originally filed and therefore constitute the application as originally filed. Therefore, Applicant may add adequate support for these limitations into the specification while taking care to not add new matter to the specification which was not in the original specification, claims, and drawings.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 42 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 42 is considered to be vague and indefinite because in line 6, reference is made to "said functions" without a previous mention of any "functions". Therefore, it is unclear to one having ordinary skill in the art as to what "said functions" refer.

Regarding claim 42, line 12 the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). It is suggested that Applicant change "such as" to ---comprising---.

Claim 42 is considered to be vague and indefinite because in line 17 it is unclear to one having ordinary skill in the art as to what is being further limited by "comprising the steps of". It is suggested that if Applicant is attempting to further limiting the step of "determining by a combination of measurement by signal processing and deductive algorithms whether, when, where and to what extent said damage inducing factors have damaged each of said multiplicity of sensitized medium" that in line 16, "of sensitized medium;" be changed to ---of sensitized medium, comprising the steps of:---.

Claim 42 is considered to be vague and indefinite because in line 24 reference is made to "the time of the sample" without a previous mention of any "time of a sample" or mention of a "sample" itself.

Claim 42 is considered to be vague and indefinite because in line 52, reference is made to "the digital processor" without a previous mention of any "digital processor". Therefore, it is unclear to one having ordinary skill in the art whether "the digital processor" refers to the previously presented "digital processor algorithms" or a separate device.

Claim 42 is considered to be vague and indefinite because lines 54-55 make reference to "characteristic information". It is unclear to one having ordinary skill in the art, however, whether the "characteristic information" is the same as the previously presented "characteristics parameters" or if the "characteristic information" refers to different data.

Claim 42 is rejected under 35 U.S.C. 112, second paragraph, because in line 61, reference is made to "the applied signal" without a previous mention of any "applied signal". Therefore, it is unclear to one having ordinary skill in the art as to what "the applied signal" refers.

Response to Arguments

7. Applicant's arguments with respect to claim 42 has been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

U.S. Patent No. 6,512,444 to Morris, Jr. et al. discloses a monitoring device for use in monitoring at least one conduit with at least one conductor for diagnostic purposes (column 4, lines 50-58), the device comprising at least one programmed microcontroller or other processor (column 3, lines 19-22) for the purpose of acquiring sensor information from a set of sensors and sensitized medium (column 5, lines 59-64), conditioning and normalizing the sensor information based on parameters and environmental condition of the conduit (column 10, lines 5-15), and for processing the normalized information to provide an output signal indicative of the diagnostic condition of the conduit and conductors it monitors (column 7, lines 30-33 and 51-53).

Morris discloses a set of sensors having outputs coupled to the at least one programmed processor, at least one sensor being an environmental sensor for proving environmental information indicative of the local environmental condition (column 9, lines 13-16) and sensors that are strips or strands of heterogeneous sensitized medium said medium capable of supporting or conducting an electrical current and voltage (column 8, lines 44-60) with each sensor or strand of sensitized medium being positioned with respect to the conduit to provide information concerning the environment and damage and deterioration to the conduit (column 3, lines 1-5).

Morris discloses means operatively associated with the programmed processor for operating the processor in a birth certificate mode wherein the outputs of the sensors are processed by the programmed processor and stored as baseline operational parameters (column 8, lines 44-60) and means associated with the programmed processor for operating the device in a monitoring mode, after the program has operating in the birth certificate mode, wherein the programmed processor acquires, conditions, and processes the outputs from the sensors, compares the processed outputs to the baseline operating parameters, and provides an indication of the diagnostic condition of the conduit based on the comparisons (column 8, line 61 to column 9, line 12).

Morris discloses the sensor set and baseline operational parameters including temperature data (column 9, lines 16-23) and the strand of sensitized medium being temperature sensitized (column 3, lines 1-5), corrosive sensitized (column 1, lines 21-23), chafing/abrasion sensitized (column 6, lines 43-46), chemically sensitized (column 10, lines 44-46), man-made material filled, or noble or base metal coated (column 5, lines 5-11).

Morris discloses a communication link for communicating data from the programmed processor to a visual display of the diagnostic condition of the conduit (column 9, lines 5-12 and column 7, lines 51-53).

Morris discloses connection of the strips in sections and further attaches to the apparatus for connection to alternating current electricity (column 5, lines 41-45 and

column 10, lines 16-56) and including a mixture of dielectrics in the sensitized media insulation (column 5, lines 11-13).

Morris discloses that the sensitized media is in a helical format on an inner layer of the insulation (column 3, lines 1-2) or on the outer surface of the insulation (column 7, lines 11-12).

Morris discloses that the sensitized media act as transmission lines for transmitting conducted electricity (column 8, lines 44-60).

Morris discloses connecting/coupling the sensitized media to form a plurality of sections (column 5, lines 41-45).

U.S. Patent No. 5,245,293 to Runner teaches an adhesive bond degradation monitor including means for determining when a measured property meets a threshold and using rate of degradation to estimate the remaining useful life of the device (column 2, lines 32-39).

U.S. Patent No. 6,265,880 to Born et al. teaches an apparatus and method for detecting conduit chafing by wrapping a conduit with a sensing medium that is conductive, acts as a waveguide, an optical cable, or fluid filled tube under pressure (abstract). Born teaches using a light generator, light conducting medium, and light detector for measuring changes in signals and secondary effects to determine the damage (column 3, lines 35-43) as well as using time-domain reflectometry to determine the location of the damage (column 60-63). Born also teaches that the conduit is either made up of insulated or non-insulated strands (column 1, lines 29-33 and column 3, lines 4-9).

U.S. Patent No. 5,574,213 to Shanley teaches an apparatus and method for detecting leaks including filling a vessel with fluorescent dye (abstract) and detecting the dye to determine the location of a leak (column 3, lines 31-45).

U.S. Patent No. 4,988,949 to Boenning et al. teaches an apparatus for detecting excessive chafing of a cable arrangement against an electrically grounded structure including a semiconductor sensitized media (column 2, lines 47-50) that is piezoelectrically sensitized (column 8, lines 50-55) (i.e. PVC) and used in sensing vibration causing chafing (column 7, lines 13-29).

U.S. Patent No. 6,275,050 to Born et al. teaches an apparatus and method to detect corrosion in metal junctions including an electromagnetic interference sensor to detect conducted electromagnetic waves (column 5, lines 55-58).

U.S. Patent No. 5,271,274 to Khuri-Yakub et al. teaches thin film process monitoring techniques using acoustic waves wherein the acoustic waves are conducted on a line to perform TDR (column 3, lines 28-39).

U.S. Patent No. 5,712,934 to Johnson teaches a fiber optical infrared sensor wherein the fiber optical cable has the well-known composition of silica, plastic or glass (column 1, lines 9-11).

U.S. Patent No. 5,862,030 to Watkins, Jr. et al. teaches an electrical safety device with conductive polymer sensor.

U.S. Patent No. 6,392,551 to De Angelis teaches a synthetic fiber cable with temperature sensor.

U.S. Patent No. 6,286,557 to May teaches a sheath including a sensitized media strip.

U.S. Patent No. 5,177,468 to Baldwin et al. teaches a conduit liner monitor.

U.S. Patent No. 4,840,480 to Starke et al. teaches a light conduit arrangement for monitoring a physical condition of a structural part.

Electroactive Polymers 1: Piezoelectric Materials, teaches the common types of piezoelectric materials.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. West whose telephone number is (571)272-2226. The examiner can normally be reached on Monday through Friday, 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeffrey R. West
Examiner – AU 2857

March 20, 2006